JC14 Rec'd PCT/PTO 11 MAY 2005

PTO/SB/08A (08-03)
Approved for use through 07/31/2008. OMB 0851-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

Sheet

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Complete if Known				
Application Number	10/5346			
Filing Date	05/11/2003			
First Named Inventor	Avto TAVKHELIDZE			
Art Unit				
Examiner Name				
Attorney Docket Number	12091			

<u> </u>	C 0'4 -			DOCUMENTS	
Examiner Initials*	Cite No. ¹	Document Number Number-Kind Code ^{2 (# known)}	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Rind Code	00.00.4005	11.00	/ iguico / tipoca
	<u> </u>	^{US-} 3,169,200	02-99-1965	Huffman	
		^{US-} 2001/046749-A1	11-29-2001	Tavkhelidze et al	
		^{US-} 6,417,060	07-09-2002	Tavkhelidze et al	
		US- 6,720,704	04-13-2004	Tavkhelidze et al	
		US-			
		US-	·		
		US-			
		US-			·
		US-			
		US-			

		FORE	IGN PATENT DOCL	MENTS		
Examiner Initials*	Cite No.1	Foreign Patent Document	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages	T
		Country Code ³ "Number ⁴ "Kind Code ⁵ (if known)	MM-DD-YYYY		Or Relevant Figures Appear	Τ٥
		WO99/10688 A1	03-04-1999	Edelson		一
		WO 99/13562 A1	03-18-1999	Tavkhelidze et		
	<u> </u>					
_	ļ					
	 					_
	<u> </u>			1		l

			
Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 'Applicant's unique citation designation number (optional). 'See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. 'Senter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 'For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 'Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. 'Applicant is to place a check mark here if English language Translation is attached.

Translation is ettached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the Individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND

To: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

JC14 Rec'd PCT/PTO 11 MAY 2005



PTQ/SB/08B (08-03)

Approved for use through 07/31/2006, OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCI Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449/PTO		Complete if Known			
		Application Number	10/53463		
INFO	ORMATION	DIS	CLOSURE	Filing Date	05/10/2005
STATEMENT BY APPLICANT		First Named Inventor	Avto TAVKHELIDZE		
	(Use as many she	ote ne e	aconcond	Art Unit	2820
•	(USB as many sne	1612 82 U	ecessary) .	Examiner Name	Benjamin T Liu
Sheet	2	of	2	Attorney Docket Number	12091

Examiner	Cite	NON PATENT LITERATURE DOCUMENTS Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of	
Initials*	No.1	the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
/BTL/		TAVKHELIDZE et al., "Electron tunneling through large area vacuum gap", Thermoelectrics, 2002. Proceedings ICT '02., 08-25-2002, pp435-438, Piscataway, NJ, USA	
/BTL/		HISHINUMA et al., "Refrigeration by combined tunneling and thermionic emmission in vacuum: Use of nanometer scale design", Appl Phys Lett, 04-23-2001, pp2572-2574,vol 78,no 1	
	,		
-			

Examiner /Benjamin T Liu/	Date Considered	. 10/10/2007
---------------------------	--------------------	--------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:

Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.